

# EPA REGION 8 HEALTH AND SAFETY PLAN

## General Information

1885764 - R8 SDMS

1. Project Title:	Illinois Gulch Mining District
2. Locations:	Summit County, Colorado
3. Date of Field Activities:	2016
4. Site Background:	<p>Blue River Segment 12 (COUCBL12) Illinois Gulch, is in nonattainment of Aquatic Life Use-based water quality standards for dissolved zinc and cadmium. Illinois Gulch is located near Breckenridge in Summit County, Colorado. Water quality in Illinois Gulch above the confluence with Iron Springs Gulch (and influence of the Puzzle/Willard Mine) is in attainment of assigned water quality standards. Water quality in Illinois Gulch from below the confluence with Iron Springs Gulch to the confluence with the Blue River fails to meet the Aquatic Life Use-based standards for zinc and cadmium.</p> <p><b>Environmental Problem</b></p> <p>Much of the heavy metal loading throughout the Blue River basin is the result of natural geologic conditions and historic mining activities. The Blue River watershed began experiencing widespread mining activity throughout the basin beginning in the 1870's. Several historical mine sites are located in the vicinity of Illinois Gulch. Commodities from these mine included gold, zinc, lead, silver, and copper. Mining operations resulted in residual levels of elevated cadmium concentrations in Illinois Gulch. Discharge from the Puzzle/Willard Adit is the starting point for surface water in Iron Springs Gulch. Surface water from Iron Springs Gulch flows a few hundred feet before mixing with water seeping from several large waste rock piles. Iron Springs Gulch flows north through a wetland before taking shape in a channelized stream, eventually meeting with Illinois Gulch.</p> <p>The Water Quality Control Division has a routine monitoring site on Illinois Gulch near the Breckenridge Ice Rink. This site provided water quality data from 2001 to 2007. In addition to the routing monitoring, the WQCD conducted synoptic sampling events; 2 during 2008 and 2 during 2010. Six sites were sampled: sample sites were located upstream from the Puzzle/Willard Mine (Illinois Gulch at Illinois Gulch Road), the Puzzle/Willard Mine seepage, Iron Springs Gulch upstream from the confluence with Illinois Gulch, Illinois Gulch upstream of the confluence with Iron Springs Gulch, Illinois Gulch downstream of the confluence with Iron Springs Gulch, and Illinois Gulch at the Breckenridge Ice Rink. These data were utilized in the development of the TMDL.</p> <p>During the development of the TMDLs for (COUCBL12) four zinc results were recorded in 2008 on Illinois Gulch above the Iron Springs Gulch confluence. A mean hardness of 88.5 mg/L was used to calculate a chronic zinc Aquatic Life Use-based standard of 112.10, which when compared to 98.2 ug/L, the 85 % of zinc, shows attainment. Of these four sampling events, there were no exceedances of the zinc acute aquatic life standard. Six cadmium results were recorded on Illinois Gulch above the Iron Springs Gulch confluence between 2008 and 2010. All samples resulted in less than detectable levels of cadmium and attainment of chronic and acute Aquatic Life Use-based standards. While the portion of Illinois Gulch above the confluence with Iron Springs Gulch is attaining water quality standards, zinc levels equal 87% of the chronic standard for this portion. Abandoned mine waste-rock piles in close proximity to Illinois Gulch have been observed in this portion.</p> <p>Water Quality of Illinois Gulch continues to degrade from the confluence with Iron Springs Gulch to the confluence with the Blue River as evidenced by the increasing concentrations of zinc.</p> <p><b>Characterization of Water Quality</b></p> <p>Additional information is necessary to make remediation decisions and will provide the basis for remediation planning. Additional characterization will build on the information compiled in the</p>

	<p>TMDL to further document zinc and cadmium sources, measure loading contributions and characterize sources as natural or anthropogenic.</p> <p>The Puzzle/Willard Mine adit and nearby waste rock piles are presumed to be the most significant sources of metals to Iron Springs Gulch. Sampling locations in Iron Springs Gulch will be positioned selected based upon XRF and samples above and below known sources to measure zinc and cadmium loading contributions per source. Sampling locations on Illinois Gulch below the confluence with Iron Springs Gulch will identify sources contributing to the increasing concentrations downstream to the confluence with the Blue River. Mining features in the upstream reaches of Illinois Gulch exist and will be bracketed by sampling points IG3, IG 14 and IG 15.</p>
<b>5. Site Sampling Objectives:</b>	<p>The objective of the field investigations planned for the spring and fall are outlined in the SAP/QAPP, prepared by the US Forest Service, Colorado Department of Public Health &amp; Environment (CDPHE) &amp; the Environmental Protection Agency (EPA). EPA and other federal and state personnel will be conducting surface water using protocols outlined in the SAP/QAPP. Specific activities of EPA and other federal and state personnel include the following:</p> <ul style="list-style-type: none"> <li>• Collect surface water, sediment, waste rock and tailings;</li> <li>• Measure stream flow;</li> <li>• Collect GPS data specific to sampling locations;</li> <li>• Document field and sample collection activities in field log.</li> </ul> <p><u>Scheduled Equipment to Mobilize to Site:</u> Stream flow measurement equipment; surface and groundwater sampling equipment; and Global Positioning Satellite (GPS) equipment.</p>
<b>6. Key Site Personnel and Responsibilities:</b>	<p>For a complete listing of personnel and associated functions please see the Site Specific Safety Plan Acknowledgement Form located in Section 7 of this document. Note that in the event a listed individual is not able to attend a sampling event(s), a replacement will be named prior to field activities, if necessary. By signing the HASP each person concurs that they have completed any required OSHA training.</p> <p><u>Site Supervisor</u></p> <p>A designee will serve as Site Supervisor (will be announced in the field). Responsibilities include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Being knowledgeable of federal, state, local requirements applicable to the work assignments</li> <li>• Evaluating the potential hazards of projects and appropriately managing for control of these hazards</li> <li>• Establishing, through personal example, the desired safety environment for the performance of duties <ul style="list-style-type: none"> <li>• Identifying and correcting health and safety deficiencies within their control and promptly notifying EPA management or health and safety staff of deficiencies outside their control</li> </ul> </li> <li>• Monitoring the condition of workers on site to assess need for work hour limitations.</li> </ul> <p><u>Site Safety Officer</u></p> <p>A designee will serve as the Site Safety Officer (will be announced in the field). Responsibilities include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• Conducting daily site safety meetings;</li> <li>• Enforcing use of appropriate levels of protection, and procedures to minimize any hazards to EPA, other federal and state personnel, and community residents;</li> </ul>

- Ensuring the preparation, approval, and enforcement of site-specific health and safety plans for assigned EPA tasks;
- Providing health and safety support for assigned EPA tasks;
- Assisting in the implementation of health and safety responsibilities of EPA management staff
- Establishing, through personal example, the desired safety environment for the performance of duties;
- Ensuring that driving conditions are acceptable for movement of all vehicles;
- Continually evaluating compliance with government health and safety regulations;
- Recommending changes to the EPA health and safety plan as needed based on newly issued or revised regulations, experience, and loss-control practices;
- Identifying and correcting health and safety deficiencies within his control and notifying EPA management or health and safety staff of deficiencies outside his control; and
- Recommending changes in the work schedule of site workers in order to avoid accidents due to fatigue and environmental stress.

#### 7. Site Specific Safety Plan Acknowledgment Form:


Site Name: Illinois Gulch Mining District

Scheduled Equipment to Mobilize to Site: Stream flow measurement equipment; surface and groundwater sampling equipment; and Global Positioning Satellite (GPS) equipment.

Proposed Sampling Activities: Surface water, stream flow measurement, waste rock, tailings and position data collecting with GPS.

#### Site Specific Safety Plan

All team members will acknowledge that they have read and understand this Health and Safety plan and have completed all necessary training:

 Jean Wyatt 6/16/16  
Signature, EPA Team Member, Name (Print) Date

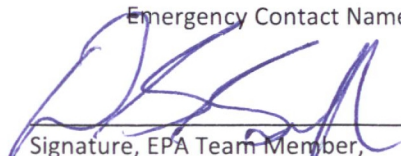
Emergency Contact Name & Number Lane Wyatt 9204850561

 Robyn Blackburn 6/16/16  
Signature, EPA Team Member, Name (Print) Date


Emergency Contact Name & Number Jamakee Blackburn 7857661015

 Bill Schroeder 6/16/16  
Signature, EPA Team Member, Name (Print) Date

Emergency Contact Name & Number 949-582-8519

 Susan Giffen 6/16/16  
Signature, EPA Team Member, Name (Print) Date

Emergency Contact Name & Number 720-244-5334

 Joseph Chocula 6-16-15  
Signature, EPA Team Member, Name (Print) Date



Emergency Contact Name & Number Beth 303-319-2901

[Signature] Ryan Dahan 6/16/16  
Signature, EPA Team Member, Name (Print) Date

Emergency Contact Name & Number Beth 303-588-2072

[Signature] PETER STEVENSON 6/16/16  
Signature, EPA Team Member, Name (Print) Date

Emergency Contact Name & Number 303 886 1639

**8. Emergency Procedures/  
Contingency Plan:**

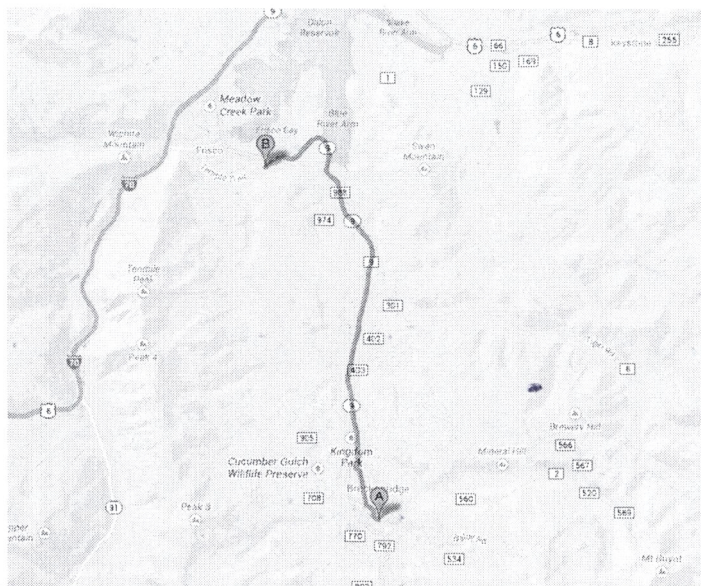
In the event of an emergency, Site Personnel should stop work and retreat to a designated area to determine appropriate response and establish site security and control. **The designated area of retreat shall be determined by the Site Safety Officer at the site safety briefing prior to mobilization.**

In the event of a medical emergency, personnel are highly discouraged from transporting personnel in private vehicles. Emergency medical services should be contacted, call 911, in all but the most minor medical conditions. In order to facilitate the provision of emergency medical services, the hospital site location information will be available in sampling vehicles for reference and guidance in the event of an emergency.

If a team member is taken to the clinic or hospital, their Medical Data Sheet should be taken for use by the treating physician. Each team member should complete his/her Medical Data Sheet, place it in a sealed envelope with "Medical Data Form" and their name on it, and take it to the field. The form should be kept in a location known to the other team members for use if needed.

The St. Anthony Breckenridge Community Clinic Emergency Center (ph 970-453-1010), a Level V trauma center, is located at St. Anthony Breckenridge Community Clinic Emergency Center 555 South Park, Plaza II, Breckenridge, CO 80424, OR, IF CLOSED: St. Anthony Summit Medical Center; 340 Peak One Drive, Frisco, CO 80443 970-668-3300; [www.summitmedicalcenter.org](http://www.summitmedicalcenter.org)

\* Open 24 Hours; In-patient Facility  
Level III Trauma Center



	<p>Driving directions to St Anthony Summit Medical Center  Driving Directions to Nearest Hospital: Proceed down Boreas Pass Road to the Ice Rink;  9.2 mi, 17 mins  CO-9 N</p> <p>Ice Rink Lot  Boreas Pass Rd  Breckenridge, CO 80424</p> <ol style="list-style-type: none"> <li>1. Head northwest on Boreas Pass Rd toward Sunbeam Dr  0.1 mi</li> <li>2. Take the 2nd right onto S French St  1.0 mi</li> <li>3. Turn right onto Main St  0.2 mi</li> <li>4. At the traffic circle, take the 1st exit onto CO-9 N/Main St  Continue to follow CO-9 N  7.4 mi</li> <li>5. Turn left onto County Road 1005/Peak One Drive  Destination will be on the left  0.3 mi</li> </ol> <p>St Anthony Summit Medical Center  340 Peak One Dr  Frisco, CO 80443</p>
<p><b>9. Reporting of Accidents:</b></p>	<p>An employee who suffers a work injury or becomes involved in an accident, regardless of how minor, which may have resulted in an injury to themselves or others, is required to report the accident and/or work injury as soon as possible to their supervisor, who will then contact the EPA Manager Johanna Miller. Even if the accident information is incomplete, <b>notify management as soon as possible</b>. After accident information is received by management, the EPA Health and Safety Officer, Jason Nakatsu, must be notified immediately.</p> <p>In case of an accident or injury the EPA manager will contact Jason Nakatsu of EPA Technical Management Systems. Upon notification of an accident, Jason Nakatsu will contact the EPA workers compensation insurance carrier and complete the necessary forms such as an OSHA 301 form, even if the information is incomplete.</p> <p>The employee must advise the attending medical personnel that their injury is work-related so the medical facility can submit the appropriate information to EPA Human Resources (HR). EPA HR will initiate the claims process with the EPA workers compensation insurance carrier and any required notifications to the appropriate state.</p> <p>During nights, weekends, or holidays, contact the EPA Manager. If the EPA Manager is unavailable, contact the EPA Health and Safety Officer. Either the Manager or Health and Safety Officer can contact the EPA workers compensation insurance carrier and initiate the claims process with Travelers, who will provide for the employee a claim number and the claim handler's name. The employee will use this claim number for any related billing (hospital, medical, etc.). The claim number, claim handler's name, and all related information should be forwarded to Jason Nakatsu as soon as possible.</p> <p>After initial notifications and verbal reporting, the employee should complete any accident reports and related forms. Additional information can be found in the EPA, Region 8 Health and Safety Plan, Reporting of Accidents or Incidents.</p>
<p style="text-align: center;"><b><u>Emergency Information</u></b></p>	

<b>10. Ambulance:</b>	911	Phone: ---	911					
<b>11. Hospital:</b>	Frisco Medical Center; 340 Peak 1 Dr, Frisco, CO 80443	Phone: (970) 668-3300	911					
<b>12. Fire Department:</b>	Red White and Blue Breckenridge Fire Station; 316 N Main St, Breckenridge, CO 80424	Phone: (970) 453-2474	911					
<b>13. Police:</b>	Breckenridge Police; 150 Valley Brook St, Breckenridge, CO 80424	Phone: (970) 453-2941	911					
<b>14. Poison Control Center:</b>	Phone: 1-800-222-1222							
<b>15. Additional Phone Contacts</b>	EPA EPR-SR Manager: Victor Ketellapper/Johanna Miller	Office: (303) 312-6578/ (303) 312-6804 Cell: (720)951-0975 / (303)886-1635						
	EPA – Health and Safety Officer – Jason Nakatsu	Office: 303-312-6862						
	(EPA) National Spill Response Center (Spills>RQ)	(800) 424-8802						
<b>16. Site Emergency Notification/Evacuation Method:</b>	<p>In the event of an emergency, Site Personnel should stop work and retreat to a designated area to determine appropriate response and establish site security and control. The designated area of retreat shall be determined by the Site Safety Officer at the site safety briefing prior to mobilization.</p> <p>In the event of a medical emergency, personnel are highly discouraged from transporting personnel in private vehicles. Emergency medical services should be contacted, call 911, in all but the most minor medical conditions. In order to facilitate the provision of emergency medical services, the hospital site location information will be available in sampling vehicles for reference and guidance in the event of an emergency.</p> <p>If a team member is taken to the clinic or hospital, their Medical Data Sheet should be taken for use by the treating physician. Each team member should complete his/her Medical Data Sheet, place it in a sealed envelope with “Medical Data Form” and their name on it, and take it to the field. The form should be kept in a location known to the other team members for use if needed.</p>							
<b>17. Health and Safety Officer:</b>	Jason Nakatsu 303-312-6862 (office) 619-865-3030 (cell)							
<b>18. Radiation Safety Officer (RSO):</b>	Richard Graham 303- 312-7080 (office) 303- 601-2656 (cell)							
<b>19. Safety and Health Hazard Analysis:</b> The following sections identify potential chemical, physical, and biological hazards that could be encountered during fieldwork activities. The buddy system will be used at all times while conducting fieldwork. Sample team members are not advised to travel to locations alone, and field hazards will be discussed at the daily tailgate safety meeting.								
<b>Check all known or potential hazards:</b>								
<input type="checkbox"/> Radiation	<input type="checkbox"/> Corrosives	<input checked="" type="checkbox"/> slips, trips, and falls	<input checked="" type="checkbox"/> Cold weather operations					
<input type="checkbox"/> O <sub>2</sub> Deficiency	<input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Vehicular Travel	<input checked="" type="checkbox"/> Potential for getting lost					
<input type="checkbox"/> Dusts	<input checked="" type="checkbox"/> Insect Bites and Stings	<input checked="" type="checkbox"/> Rough terrain	<input checked="" type="checkbox"/> Storms and Lightning					
<input type="checkbox"/> Toxics	<input checked="" type="checkbox"/> Snakes	<input checked="" type="checkbox"/> Entering/exiting streams	<input checked="" type="checkbox"/> Avalanche/ deep snow					
<input type="checkbox"/> Noise	<input checked="" type="checkbox"/> Working at elevations	<input checked="" type="checkbox"/> Heat Stress and Dehydration	<input checked="" type="checkbox"/> High/fast moving water levels					
<input type="checkbox"/> Fire/Explosion								

**20. Potential Chemical Hazards:**

Chemical Hazards of Concern: Due to acid mine run-off, low pH conditions ranging as low as 2.0 occur in some areas of the site. Direct contact of low pH water with unexposed skin may result in a slight burning sensation and should be avoided.

Chemicals	Exposure Limits	Source	Routes of Exposure
Aluminum, soluble salts, as Al	2 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Arsenic, metal and inorganic compounds	0.01 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Cadmium, metal and compounds	0.002 mg/m <sup>3</sup> TLV -TWA ACGIH; respirable fraction	Tailings/Water	Inhalation, skin contact, ingestion
Chromium, metal	0.5 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Chromium 6+, inorg. Cmpds, soluble	0.05 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Cobalt, metal	0.2 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Copper, soluble compounds, as Cu	0.05 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Gold, metal	No limits established	Tailings/Water	Inhalation, skin contact, ingestion
Iron, salts, soluble	1 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Mercury, inorganic compounds, as Hg	0.025 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Manganese, metal & inorg. Compds, as Mn	0.2 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Nickel, soluble compounds, as Ni	0.1 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Lead, metal and compounds	0.05 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Silver, soluble compounds, as Ag	0.01 mg/m <sup>3</sup> TLV-TWA ACGIH	Tailings/Water	Inhalation, skin contact, ingestion
Zinc oxide	2 mg/m <sup>3</sup> TLV-TWA ACGIH (respirable)	Tailings/Water	Inhalation, skin contact, ingestion
Nitric Acid	5.2 mg/m <sup>3</sup> TLV-TWA ACGIH	Preservative	Inhalation, skin contact, ingestion
Phosphoric Acid	1 mg/m <sup>3</sup> TLV-TWA ACGIH	Preservative	Inhalation, skin contact, ingestion
Sulfuric Acid	0.2 mg/m <sup>3</sup> TLV-TWA ACGIH (thoracic fraction)	Preservative	Inhalation, skin contact, ingestion

Personnel should always be aware of the chemical hazards and attempt to keep any exposures as low as possible. Procedures which will minimize the risk of chemical exposure to site personnel include:

- Hands should be washed frequently and always before meals.
- Disposable equipment will be used whenever possible.
- Disposable gloves will be worn during all sampling activities.

**21. Specify unusual working conditions/ limitations:**

- All EPA staff are prohibited from entering any permit required confined space in addition to any area that would present an oxygen deficient or unknown hazard condition.
- All EPA staff are prohibited from entering any underground space.
- *Special Safety Note: For all underground sampling work, the Colorado Department of Reclamation, Mining & Safety will provide trained underground personnel who hold and maintain current MSHA 40 hr underground miner certification. These individuals will accompany all other agency personnel, (CU, EPA, USFS, etc.), while underground. No one may visit the underground*

	<p><i>areas unless in the company of an underground-certified individual, after receiving site specific hazard training.</i> If any underground activities are to occur at an abandoned or inactive mine site, all requirements in accordance with the "Region 8 H&amp;S Guidelines for Abandoned and Inactive Mine Workings" shall be followed.</p> <ul style="list-style-type: none"> <li>• In the event that the sampling is taking place at an active facility, then site/facility health and safety requirements must be requested and documented prior to inspection activities. All Federal, State, local and facility-specific health and safety requirements must be followed. All facility-specific health and safety recommendations must be followed.</li> </ul>
<p><b>22. In order to address these hazards, the following will be observed:</b></p> <ul style="list-style-type: none"> <li>• The buddy system will be used at all times;</li> <li>• Project manager/Field team leader will make a determination as to the high level and high flow conditions prior to initiating in-stream fieldwork.</li> <li>• Team members will be aware of potential heat and cold stress symptoms. In the event team members experience discomfort due to heat or cold stress, the employee will cease work activity immediately and another team member will conduct First Aid. In the event conditions do not improve, 911 will be contacted.</li> <li>• Teams members will be informed of potential hazards and advised to 1) take breaks as necessary avoid fatigue and exhaustion, 2) stay alert and scan ahead to avoid potential hazards 3) move at an appropriate pace, keep steady footing and watch where they place their feet, and 4) wear appropriate footwear that meets the requirements of the landscape.</li> <li>• Team members will be advised to 1) not travel alone while conducting fieldwork, and 2) to adhere to generally accepted safe driving practices.</li> <li>• Team members will be aware of the terrain type so they can plan and prepare accordingly.</li> <li>• In the event team members experience discomfort due to the high elevation location of work activities, the employee will be removed to lower elevation and work activity will cease. In the event conditions do not improve, 911 will be contacted.</li> <li>• Team members will be advised to 1) descend quickly if caught above tree line when a storm approaches, 2) avoid isolated trees, 3) get off waterbodies and seek shelter 4) drop metal objects, and 5) seek a low spot if you are caught in an open area and crouch with your feet together and head low.</li> <li>• Project manager/Field team leader trained in avalanche safety will assess avalanche risks prior to initiating fieldwork. Fieldwork will not be conducted in avalanche prone areas.</li> </ul> <p>A first aid kit will be kept in each EPA field vehicle to treat minor insect bites and scrapes. In the event more serious injuries are encountered due to biological hazards, 911 will be contacted. Sample team members will be instructed to maintain awareness of their surroundings at all times and not to approach wildlife. Team members will be aware of potential biological hazards associated with the work, and wear insect repellent as needed. If any team members have sensitivities to insect stings, etc., the team should be aware of the sensitivity and location of any personal medication brought to the field; the sensitivity or allergy should be noted on the Medical Data Form as well.</p>	
<b>23. Training:</b>	<p>All on-site EPA personnel will be current in meeting the OSHA training requirements as specified in 29 CFR 1910.120. In addition, all personnel will:</p> <ul style="list-style-type: none"> <li>• Review the Site Safety Plan prior to beginning field work;</li> <li>• Attend the daily site-specific safety briefing prior to beginning field activities;</li> <li>• Attend all other safety meetings;</li> <li>• • Attend training in applicable work practices and procedures; and</li> <li>• Attend training for Personal Protective Equipment needs and use, where applicable.</li> </ul>
<b>24. Personal Protection Equipment (PPE):</b>	<p>Due to the nature of field activities being performed, modified Level D PPE will be required for each of the sampling events and will include the following:</p> <ul style="list-style-type: none"> <li>• Safety glasses (sun glasses may be used as well)</li> <li>• Hip waders/hip boots for in-stream activities</li> <li>• Nitrile gloves for sampling activities</li> <li>• Hiking boots for remote sampling locations</li> <li>• USCG – approved personal floatation devices for boat work (none anticipated for this site)</li> </ul>



	<p>The following safety equipment will be provided by an EPA field vehicles:</p> <ul style="list-style-type: none"> <li>• First aid kit</li> <li>• Fire extinguisher</li> <li>• Mobile phone</li> <li>• Decontamination equipment</li> <li>• Nitrile gloves</li> <li>• Ice</li> <li>• Sun screen</li> <li>• Insect repellent</li> </ul> <p>EPA Personnel will bring sun/safety glasses, towels, waders (if necessary), hiking boots, and cold weather gear.</p>
<b>25. Medical Monitoring Program:</b>	All EPA personnel involved in activities which could result in chemical exposure will be participants in the EPA Medical Monitoring Program, which meets the requirements of 29 CFR 1910.120. Team members will be permitted to participate in this type of field activity according to their medical clearance.
<b>26. Air Monitoring Program:</b>	Due to the nature and extent of contaminants (primarily metals contamination with limited soil sampling) associated with this sampling event (based on the results of past investigations), no air monitoring is anticipated during field sampling activities.
<b>27. Radiation:</b>	Radiation hazards are not expected during the inspection. If radiation issues arise please call Richard Graham, (303) 312-7080 office (303) 601-2656 cell
<b>28. General Clause:</b>	The above list of hazards and associated control measures shall not be taken as a comprehensive assessment of the hazards associated with this inspection trip. The combination of chemical, physical and biological (not sure if there) hazards present a varying range of potential health hazards, therefore proper planning, and field safety training must be performed and be up to date before the site visit is to occur. All EPA personnel must be alert for symptoms of possible exposures such as unusual smells, itchy, burning or watery eyes, nose and throat, skin irritation in addition to unusual fatigue or malaise. If any symptoms or immediate danger to life and health conditions exist, EPA personnel are to leave the area immediately and call the necessary emergency personnel.
<b>29. Site Control/Safety Measures:</b>	<p><b>Work Zones:</b> Since the majority of work will be performed in or around streams, appropriate precautions will be taken to avoid flooding of equipment and exposure of personnel to high stream flows. The Site Safety Officer will determine if stream flows are dangerously high and would thus preclude in-stream activities. In addition, individual team members may elect to refrain from in-stream activities if they feel conditions are unsafe.</p> <p><b>Communications and Emergency Alarm System:</b> Due to the small project team size and the unlikelihood of conditions developing which would require immediate evacuation, verbal communications will be used among team members. A mobile telephone and/or two-way radio will be available, and all team members shall be informed of their location at the site safety meeting prior to commencing work. Personnel will confirm that dialing 911 on the mobile telephone will reach local emergency medical services prior to on-site operations.</p> <p><b>The Buddy System:</b> The buddy system will be used at all times.</p>
<b>30. Decontamination Procedures:</b>	<p>All disposable personal protective gear will be bagged and removed from the site for proper disposal. Any contaminated wash and rinse solutions will be collected and properly disposed of upon return to the Region 8 laboratory. Decontamination during this site investigation will include:</p> <ul style="list-style-type: none"> <li>• Washing in-stream water quality meters;</li> <li>• Washing sampling scoops (if not dedicated to individual sampling locations);</li> <li>• Showering off-site at earliest convenience;</li> <li>• Washing of sampling equipment with soap, water, and/or bleach solution.</li> </ul> <p>Note that the water used for sampling equipment decontamination must be contaminant free.</p>
<b>31. Confined Space:</b>	Confined space entry is not a requirement of this project.

<b>32. Spill Containment:</b>	There is minimal potential for any spill of hazardous chemicals at this site due to the nature of the work. However, should a spill occur, personnel should immediately contain the spill with available absorbent material, neutralize the spilled material if appropriate, and subsequently dispose of the spilled material appropriately.
<b>33. Hazard Communication:</b>	Only small amounts of hazardous chemicals (nitric, sulfuric, and phosphoric acids) will be used during field activities for sample preservation. MSDS documentation for these chemicals is stored at the Region 8 Laboratory and the hazards and precautions will be communicated to sample team members during the daily tailgate safety meeting. When using any acids for sample preservation, nitrile gloves and safety glasses will be worn, as will an outer laboratory coat or other protective covering.
<b>34. Standard On-Site Safety Practices:</b>	<p>All participants will conduct their work in accordance with the project Site Safety Plan and applicable rules. Personnel will be directed to leave the site if they fail to observe the safety requirements or in any way create a safety hazard. Standard personnel precautions include the following:</p> <ul style="list-style-type: none"> <li>• Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any contaminated area.</li> <li>• Care must be taken when wearing personal protective equipment because of the increased potential for fatigue and/or heat stress related injuries due to dehydration etc.</li> <li>• Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible do not walk through puddles, mud and discolored surfaces; kneel on the ground; lean, sit or place equipment on drums, containers, vehicles, or on the ground.</li> <li>• Medicine and alcohol can potentiate the effects of exposure to toxic chemicals. Prescribed drugs should not be taken by personnel working on site where the potential of absorption, inhalation or ingestion of toxic substances exists unless specifically approved by a qualified physician. Alcoholic beverage intake should be minimized or avoided over the duration of the project.</li> <li>• On-site personnel will be required to remove contaminated clothing and thoroughly wash hands and face prior to smoking, handling of any food or drink, using of any restroom facilities or leaving the site.</li> <li>• Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after protective garments have been removed.</li> <li>• Slips, trips, and falls will be a constant hazard with the potentially loose dirt and cobble located throughout the watershed.</li> </ul>
<b>35. Health and Safety Plan Review:</b>	<p>This Site Safety Plan is based upon information provided by the United States Environmental Protection Agency (EPA) Region 8 and is based on the Job Hazard Analysis for the Site Assessment Program, mixed ownership team. If new information is obtained or identified, this Site Safety Plan will be amended as applicable.</p> <p>This Site Safety Plan defines and designates Health and Safety requirements and protocols to be followed during sampling and analysis activities. Applicability extends to all EPA, EPA contractors, and other Federal and State employees who access the site.</p>